Chapter

Traditional Treatment for Rheumatoid Arthritis

Krushna Chandra Sahoo

Abstract

The most prevalent musculoskeletal disorder is rheumatoid arthritis (RA). The main concern with RA is extreme fatigue, pain, and weakness. Patients having severe pain are compelled to take medications containing a variety of indigenous substances. These indigenous substances, on the other hand, exacerbated illnesses and delay in seeking appropriate healthcare. Treatment is delayed due to a number of reasons, including patients' lack of access to trained healthcare professionals, delays in referral to a rheumatologist, and patients' belief on traditional healing practices. The choice of inappropriate healthcare providers often causes a delay in referral to a rheumatologist. Self-medication and seeking treatment from traditional healers are often compelled the patient to engage in a variety of traditional practices. Cultural values have a significant influence on care-seeking behavior. Since healthcare promotion is dictated by community demands, the healthcare system should understand the contextual phenomena behind common practices for better health education. This chapter will address the beliefs and values that underpin traditional treatment, the sources of traditional learning pathways and ethical aspects of traditional practice.

Keywords: rheumatoid arthritis, musculoskeletal disorder, traditional healing, indigenous treatment practices, use of animal products, care-seeking pathways

1. Introduction

Rheumatoid arthritis (RA) is one of the most common inflammatory musculoskeletal disorders, causing chronic pain in patients [1–6]. It is also a chronic destructive inflammatory disease characterized by the presence and consistency of an inflammatory infiltrate, resulting in joint architecture destruction and impairment of function [1–6]. The fingers, wrist, feet, and ankles are the most commonly affected by RA, and the chronic inflammation causes permanent joint destruction and deformity [1–6]. The main concern with RA is the pain, and its persistence frequently has negative health consequences [5–8]. As a systemic disease, RA has extra-articular manifestations in systems such as the pulmonary, ocular, and vascular systems, as well as other organs or structures that may be affected by the inflammatory process. As a result, timely and rational rheumatoid arthritis treatment is critical [8–10]. Nonetheless, despite greater recognition of the benefits of timely treatment, there is always a delay in obtaining treatment from appropriate healthcare providers among patients [11]. The delays in diagnosis and referral to a tertiary health care facility or specialist, such as a rheumatologist, causes worsening disease conditions and complicating care-seeking pathways [12–18].

2. Rheumatoid arthritis, and complementary and alternative medicines (CAM)

Rheumatoid arthritis is one of the most painful diseases, and patients seek a variety of treatment options, including complementary and alternative medicines (CAMs) [19–26]. CAM has grown in popularity among RA patients worldwide; CAM use is widespread among RA patients and is projected to increase further [2, 9, 27, 28]. The use of CAMs by people living with RA in the United States has been reported to range between 28 and 90 percent [21, 22]. The lifetime prevalence of CAM use in RA patients is 38 percent [29]. CAMs include a wide range of traditional or indigenous practices as well as a variety of products. Herbal treatments, homoeopathy ingredients, and various animal products are among the products available. Massage therapies, acupressure, acupuncture, electro-acupuncture, electrical stimulation, laser therapy, and mind–body therapies are among the indigenous treatment methods [7, 14, 17, 24, 26, 30, 31]. Many different types of physical activity are generally used and encouraged. Homeopathy employs ingredients in high concentrations that are not typically found in conventional medicines or treatments [7].

The fundamental question is why CAMs are not fully integrated into mainstream medical care, even in countries like China and India, which are known to be the birthplace of these traditional CAMs [7, 24, 26, 31]. The reasons could be scientific, political, or economic [19]. However, the most common argument is that traditional complementary and alternative medicine or therapies often create a barrier to scientific scrutiny [19]. The effect of CAMs with slight alterations and combinations can be demonstrated to be similarly effective and can suggest better patents; thus, research does not garner much private funding. The majority of studies are underpowered or poorly designed. As a result, pharmacovigilance research should concentrate on issues such as drug interactions and CAM intervention [19]. However, the most significant barrier to CAM research is a lack of funding and qualified experts to research these products. Currently, these CAMs are being subjected to scientific scrutiny [19]. Whatever the reason behind the popularity of CAMs, it is critical to understand which type of CAM is safe and effective for patients with RA [21, 22]. Physicians should be well informed and at ease discussing common complementary and alternative therapies, particularly their effects, side effects, and potential interactions with conventional RA treatments. Many patients may not volunteer for their use of CAM, so physicians must conduct systematic inquiries during consultations. This should be given extra attention in elderly patients with comorbidities.

3. Various indigenous healing practices

Traditional RA treatment includes the use of plant products or herbal remedies [22, 32, 33], animals or animal products [14, 22, 32, 34–37], and the application of alternative therapies [2, 7, 22, 32, 38, 39]. Traditional approaches to RA treatments include herbs/juices, spiritual practices, topical applications, movement-based therapies, and practitioner-based modalities [32]. These traditional treatments are used as a home remedy and were primarily encouraged or suggested by family members, neighbours, or relatives. The majority of the time, however, these traditional treatments are prescribed by local traditional healers. Traditional medicines are used in a variety of ways, including eating, drinking, tying, anointing, banding, massaging, and fumigation. It was eaten often fresh. The other methods of preparation were cooking, burning, crushing, grinding, wrapping, powdering, or drying. **Table 1** shows a detailed list of the animals and animal products that are used in traditional RA care.

Authors	Scientific name of the animal	Preparation Procedure
Samal et al. 2020 [14]	*Ocyceros birostris* (Indian Grey Hornbill)	Body (boiling with spices)
	Centropus sinensis (Crow pheasant)	Body (boiling with cumin seeds)
	Herpestes edwardsi (Indian grey mongoose)	Body (rotten for 4–5 days mixed with curd and eating)
	Capra aegagrus hircus (Goat)	Boiling and eating
	Canis aureus indicus (Indian jackal)	Body (rotten for 4–5 days mixed with curd and eating)
	Lumbricus terrestris (Earthworm)	Grinding curd and spices and eating
Kendie et al. 2018 [34]	Capra aegagrus hircus L. (goat)	Milk (drinking)
	Sus scrofa (pig)	Meat (eating)
	Crocodylus spp. (crocodile)	Bile (drinking anointing)
	All spp. of leeches	Head (massaging)
Altaf et al. 2017 [35]	Felis domesticus (cat)	Fat (massaging)
	Bubalus bubalis (buffalo)	Fat, milk, flesh (eating)
	Hemiechinus collaris (gray long eared desert hedgehog)	Body (massaging)
	Hystrix indica (Kerr Indian crested porcupine)	Fat (massaging)
Geisler and Cheung 2015 [32]	*Gallus Gallus domesticus* (chicken)	Cartilage Juices (eating)
	Fish oil	Oil (eating)
Alves and Alves 2011 [36]	*Apis mellifera* (Africanised honey bee)	
	Acheta domesticus (house cricket)	
	Paragryllus temulentus Saussure (cricket)	
	Palembus dermestoides (peanut beeatle)	
	Leporinus piau (Black piau)	
	Carcharhinus porosus (smalltail shark)	
	Rhizoprionodon lalandii (Brazilian sharpnose shark)	
	Rhizoprionodon porosus (Sharpnose shark)	Sun-dried, grated and crushed to powder then administered as tea or taken during meals
	Sphyrna lewini (Scalloped hammerhead)	
	Oncorhynchus mykiss (redband trout)	
	Astyanax bimaculatus (Twospot astyanax)	
	Megalodoras uranoscopus (catfish)	
	Platydoras costatus (catfish)	
	Pterodoras granulosus (catfish)	
	Oxydoras niger (catfish)	
	Electrophorus electricus (electric eel)	
	Hoplias malabaricus (trahira)	
	Gadus morhua (atlantic cod)	
	Ginglymostoma cirratum (nurse shark)	
	Phractocephalus hemioliopterus (redtail catfish)	

Authors	Scientific name of the animal	Preparation Procedure
	Zungaro zungaro (black manguruyu)	
	Pristis pectinata (smalltooth sawfish)	
	Pristis perotteti (largetooth sawfish)	
	Prochilodus nigricans (black prochilodus)	
	Sphoeroides testudineus (checkered puffer)	
	Phyllomedusa bicolor	
	Iguana iguana (common iguana)	
	Tupinambis merianae (lizard)	
	Tupinambis teguixin (lizard)	
	Boa constrictor (boa)	
	Eunectes murinus (anaconda)	
	Epicrates cenchria (Brazilian rainbow boa)	
	Oxyrhopus trigeminus	
	Drymobius margaritiferus	
	Caudisona durissa (neotropical rattlesnake)	
	Micrurus ibiboboca	
	Lachesis muta (bushmaster)	
	Phrynops geoffroanus (geoffroy's side-necked turtle)	
	Phrynops tuberosus	
	Mesoclemmys tuberculata (toadhead turtle)	
	Caretta caretta (loggerhead turtle)	
	Eretmochelys imbricate (atlantic hawksbill)	
	Lepidochelys olivacea	
	Dermochelys coriacea (Leatherback turtle)	
	Rhinoclemmys punctularia (spot-legged turtle)	
	Podocnemis expansa (amazon river turtle)	
	Podocnemis unifilis (yellow-spotted river turtle)	
	Chelonoidis denticulate (yellow footed tortoise)	
	Caiman crocodilus (common cayman)	
	Caiman latirostris (cayman)	
	Paleosuchus trigonatus	
	Buteogallus urubitinga	
	Ardea cocoi (white-necked Heron)	
	Coragyps atratus (black vulture)	
	Crax globulosa (wattled Curassow)	
	Ortalis vetula	

Authors	Scientific name of the animal	Preparation Procedure
	Glaucidium brasilianum	
	Rhea americana (greater rhea)	
	Agouti paca (spotted paca)	
	Balaenoptera acutorostrata (minke whale)	
	Bubalus bubalis (water buffalo)	
	Ovis aries (sheep)	
	Lycalopex gymnocercus	
	Canis latrans	
	Cerdocyon thous (crab-eating fox)	
	Dusicyon thous (Crab-eating fox)	
	Ateles geoffroyi	
	Ateles paniscus	
	Mazama cf. gouazoupira (gray brocket)	
	Tolypeutes tricinctus (Brazilian three-banded armadillo)	
	Sotalia fluviatilis (gray river dolphin)	
	Sotalia guianensis (guianan river dolphin)	
	Didelphis albiventris (common opossum)	
	Didelphis virginiana	
	Puma concolor (mountain lion)	
	Hydrochaeris hydrochaeris (capybara)	
	Inia geoffrensis (amazon river dolphin)	
	Conepatus semistriatus (striped hog-nosed skunk)	
	Conepatus chinga (hog-nosed Skunk)	
	Cyclopes didactylus	
	Myrmecophaga tetradactyla (collared anteater)	
	Procyon cancrivorus (crab-eating raccoon)	
	Physeter catodon (sperm whale, cachelot)	
	Tapirus terrestris (Brazilian tapir)	
	Trichechus inunguis (amazonian manatee)	
Efthimiou and Kukar 2010 [22]	Omega-3 PUFAs (fish oil)	Eating
Padmanavan and Sujana 2008 [37]	*Melursus ursinus* (bear)	Fat (massaging)
	Herpestes fuscus fuscus (brown mongoose)	Penis (eating with roasted)
	Bubalus bubalis (buffalo)	Ghee (eating and massaged)
	Varanus bengalensis (monitor lizard)	Fat (massaging)
	Panthera pandus (panther)	Fat (massaging)
	Panthera tigris (tiger)	Fat (massaging)
	Python reticulates (python)	Fat (massaging)

Authors	Scientific name of the animal	Preparation Procedure
	Cervus unicolor (sambar deer)	Fat (massaging)
	Palamnaeus swammerdami (scorpion)	Whole body (boiled and massage with gingiley oil)
	Vespa orientalis (wasp)	Body (ground with honey and salt and applied)

Table 1.
Animal or animal products use for treatment of RA.

Herbal medicines were mostly prescribed or used in powder form. In the majority of cases, patients used roots and tubers to reduce joint swelling. They took herbal remedies in the form of liquid and powdered plant products. Herbal medicines have been used as anti-inflammatory treatments for the treatment of RA [22]. The herbal remedies or plants used for treatment of RA are given in **Table 2**.

A multi-country study conducted in the United Kingdom, Germany, the United States, Australia, and Canada found that self-management of RA with pacing, heat, cold, and rest without medical advice reduced intense pain [4]. A study in the Dominican Republic looked into the religious and environmental theories of arthritis etiology. According to their participants, arthritis was caused by God's will and due to contact with contaminated water; they believe that by praying, and avoiding

Authors	Name of the plants or herbs
Geisler and Cheung 2015 [32]	*Curcuma longa* (turmeric)
	Zingiber oYcinale (ginger)
	Prunus avium (cherry)
	Ricinus communis (castor oil)
Yang et al. 2013 [33]	Black cohosh
	Angelica sinensis
	Licorice
	Tripterygium wilfordii
	Centella asiatica
	Urtica dioica
Efthimiou and Kukar 2010 [22]	*Camellia sinensis* (green tea)
	Celastrus aculeatus
	Lepidium meyenii
	Uncaria (cat's claw)
	Tripterygium wilfordii (thunder god vine)
	Perna canaliculus
	Curcuma longa (turmeric)
	Curcuma phaeocaulis
	Zingiber oYcinale (ginger)
	Semecarpus anacardium Linn.

Table 2.
Use of herbal remedies for treatment of RA.

Authors	Application of alternative therapies
Khanna et al. 2017 [38]	Seven days fasting followed by vegan diet
	An elimination diet plan
	Provision of elemental diet
	Supplementation of dietary fibers and whole grains
	Use of specific fruits and spices
Zhao et al. 2017 [7]	Fish and plant oils
	Herbs and traditional Chinese medicine
	Supplements and diet regimes
Geisler and Cheung 2015 [32]	Use of magnets or copper bracelets
	Movement based therapies – yoga, pilate's, tai chi
	Acupuncture
	Energy healing
	Reflexology
	Massage
	Eating dark chocolate, and lecithin rich food
	Eating honey and apple cider vinegar
	Eating horse liniment
	Meditation, prayer, biofeedback, relaxation
Ernst and Posadzki 2011 [2]	Magnets therapy
	Homeopathy
	Avocado-Soybean Unsaponifiables (ASU)
	Tai chi
Graham et al. 2011 [39]	Foot orthoses
Efthimiou and Kukar 2010 [22]	Acupuncture
	Electro-acupuncture
	Bee-venom acupuncture

Table 3.
Application of traditional alternative therapies for RA.

contact with contaminated water, RA can be cured [40]. Patients used heat and physical therapies, supplementation, traditional medicines, and prayer to get relief from RA [27, 28]. It was also observed that patients would sometimes practice hot compression by applying mustard oil to the affected areas [14]. The various applications of traditional alternative therapies for RA are provided in **Table 3**. Traditional healers have given powders or ash to RA patients on occasion [14]. According to a study conducted in the United States of America, 70% of patients never mention traditional treatments to their physicians, which is regarded as an invisible mainstreaming of alternative care [21, 22].

4. Key reasons for traditional healing practices and its consequences

Patients with RA have a wide range of health-care options, including self-medication with home remedies, traditional or indigenous healing practices,

traditional herbal treatment, and treatment from informal healthcare providers (untrained or unqualified providers), trained prescribers, and specialists [10, 13, 14, 23]. Patients' pain frequently prompted medication decisions, which were frequently purposeful and multifaceted [7, 15]. Because of their fatigue, pain, and disability, people with musculoskeletal disorders are among the highest self-reported users of CAMs, particularly traditional treatments [41]. The swelling and joint damage that characterize active RA are the end results of complex autoimmune and inflammatory processes involving components of both the innate and adaptive immune systems, which compel them to seek care from multiple providers, especially in LMICs. Furthermore, foot deformity is common (80%) among RA patients, leading to foot ulceration [39]. The traditional treatment used by RA patients to alleviate or recover from severe pain [11–15, 42–45].

Traditional healers are preferred because of the lack of trained healthcare providers and patients' trust in indigenous healing approaches, as well as the ease of access to care and patients' faith in traditional healing [11, 23]. The patient's care-seeking behaviour and treatment preferences vary depending on their education, culture, and beliefs [13, 27, 28]. Self-medication and seeking care from traditional healers frequently force people to engage in various indigenous practices. The studies revealed that there are two key factors responsible for the gap between onset of symptoms, definite diagnosis and appropriate health care or treatment from the right providers. These factors include poor health literacy among the patients and inaccessibility to modern health care systems or unavailability of trained providers, which often happens in rural and remote areas, where more than one-third of the patients live. Furthermore, these factors frequently result in a delay in care pathways or a proper referral system, aggravating disease conditions [11]. The major underlying reasons for treatment delay were the influence of ethnicity, such as folk beliefs, family and friends, and dietary manipulation [43].

Depression is the most common comorbidity in RA, and it has a significant impact on the quality of life [1]. It has been documented that some patients used traditional CAM therapy in addition to other modern antidepressants to recover from RA-related psychiatric disorders, particularly depression and anxiety [1]. The satisfaction with support was associated with adaptive behaviour, whereas disappointment was associated with maladaptive behavior [5, 13, 14]. Furthermore, the primary motivators of indigenous practice were easy access to healers and no prescription fees; the primary demotivators were high prices and ineffective treatment. Furthermore, the RA causes productivity loss; one of the major concerns was RA-related work-disability – permanent disability and temporary job loss [18]. For example, a study in Lithuania found that RA patients were 24 percent less likely to be employed than the general population [18]. Some of the patients sought care through multiple health care providers, and even received traditional treatment in order to avoid disability and RA-related productivity loss [18].

Treatments are frequently influenced by the patients' perspective and experience with the illness, such as the likely duration of disease onset, symptomatology, severity, diagnosis, urgency of care, and available facilities [46]. A meta-ethnography study of RA patients revealed that many were unsure about the severity and duration of the disease [47]. Patients' seeking care in various care practices during the disease period has a significant impact on disease cure [13, 48]. There were few positive outcomes from indigenous treatment; in many cases, patients experienced negative outcomes such as disease severity, side effects from incorrect treatment, and frequent delays in receiving appropriate care [13, 14]. As a result, improving the quality of life of RA patients is critical. Community literacy and mass screening would both contribute to the early detection and management of RA. It is

critical to understand patients' perspectives in order to develop a more effective health care delivery model.

5. Empirical knowledge on traditional healing

Cultural factors are regarded as vital components in the promotion of conventional therapies; the use of traditional RA management has been influenced by cultural factors [7, 27]. Traditional cultures recognized the importance of belief healing requirements and devised complex rituals to elicit expectancy and participation from healers, patients, and the local community. Traditional healing techniques have been an integral part of nearly all societies' healing rituals since the beginning of time [36]. The sources of empirical knowledge of traditional healing were based on either learning from or motivated by family, relatives or local community members or with the attraction and preference of local traditional healers [14, 15, 27]. This was mostly due to an article of faith on severe pain reduction, or to witnessing others being cured, or to societal pressure. The key knowledge pathway of indigenous RA treatment was ancient tales, customs, and belief or faith in religious or traditional healers.

Many countries around the world have deep roots in traditional healing practices. According to the World Health Organization (WHO), traditional medicine is used for primary health care by 3/4 of the world's population [49]. Indigenous cultures are often known for their oral tradition – healing and medicine knowledge transmitted orally from one generation to the next [49]. Moreover, there is great diversity in indigenous cultures worldwide. Specific healing practices are practiced by one community may not be accepted by another. The treatment practices are often difficult to generalize without scientific proof. Understanding people's beliefs about etiology, feelings, thinking, and the content of lay beliefs is critical in medical sociology [49]. However, it is difficult to verify indigenous knowledge by scientific or adequately evaluated assumptions underlying such treatment practice as a basis for its' typical criteria and philosophies [50]. The convictions of the patients about etiology were often based on faith [40, 42, 48]. However, misleading assumptions frequently result in a community's health being jeopardized.

6. Health system responsibilities and preparedness

The absences of adequate facilities in rural and remote areas, as well as a lack of patient awareness, were major motivators for indigenous approaches to RA treatment. When patients do not have adequate access to modern care, they rely on traditional healers for primary care [51]. There is compelling evidence that community members frequently prefer self-medication to traditional providers for many health issues [51]. As a result, there is a need for RA management at primary health care centres with a proper referral system [13]. Patient-centered care models are essential for effective treatment [52]. The primary need for RA patients is physician consultation through active listening and professionalism with chronic pain management [42]. Inadequate community literacy on RA is the major reason for proper treatment [36, 44]. Patients with RA must be well informed and educated on modern treatment, which is a critical component of care [10, 12]. Furthermore, public health practitioners' understanding of indigenous health concepts may be beneficial in reducing unnecessary treatment burden and care complexity [53].

In countries where much effort has been put into building a single uniform health service delivery system, the pluralistic health care system is ignored. In the

meantime, understanding the pluralistic medical system is critical to improving community health. India has a pluralistic medical culture with a well-documented history and practice of alternative medicine – Ayurveda, Yoga, and Naturopathy (AYUSH) [54]. Furthermore, multidisciplinary holistic approaches that focus on context-specific health determinants are important for understanding the cultural influence on RA care seeking pathways [13, 55, 56].

7. Conclusions

Patients with RA seek immediate care from multiple traditional providers with a wide range of products and services with no gatekeeping. The most significant concern expressed by practitioners, policymakers, and researchers is the safety and efficacy of traditional treatments, which can be addressed by conducting a thorough examination of the products in common use. Primary health centres are the entry point for retaining RA patients; the availability of RA-trained providers at primary health centres, along with a proper referral system, is critical for convalescing care-seeking pathways. Furthermore, community education on early symptoms, diagnosis, and proper treatment is critical.

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Conflict of interest

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